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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,704	12/10/2001	Shane J. Trapp	M4065.0369/P369-A	3229

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EXAMINER

UMEZ ERONINI, LYNETTE T

ART UNIT	PAPER NUMBER
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1765

DATE MAILED: 02/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/006,704

Applicant(s)

TRAPP, SHANE J.

Examiner

Lynette T. Umez-Eronini

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17,26-29,31 and 77 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17,26-29,31 and 77 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The amendment filed 11/17/2005 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

Although the Specification discloses, "Other etchant gases which may be introduced into the reaction chamber together with the foregoing ammonia and fluorocarbon(s) can include oxygen, nitrogen and other compounds which are generally available in plasma etching" (page 10, lines 11-13), the Specification fails to exclude other compounds, which are generally available in plasma etching from the plasma etching composition that consists essentially of:

at least two fluorocarbons, and ammonia, wherein said at least two fluorocarbons, and said ammonia form a reactive mixture, as recited in claim 25;

CF₄, at least one other fluorocarbon and NH₃ wherein said CF₄, said at least one other fluorocarbon, and said NH₃ form a reactive mixture, as recited in claim 71; and

wherein at least one other fluorocarbon, at least one additional gas selected from the group consisting of oxygen and nitrogen, and ammonia, wherein said at least one fluorocarbon, said at least one additional gas, and said ammonia form a reactive mixture, as recited in claim 77.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 26-29, and 31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 26, "A plasma etching composition consisting essentially of: at least two fluorocarbons and ammonia. . . form a reactive mixture;"

In claims 71, "'A plasma etching composition consisting essentially of: CF₄, at least one other fluorocarbon and NH₃. . . form a reactive mixture; and

In claims 77, "A plasma etching composition consisting essentially of: at least one additional gas selected from the group consisting of oxygen and nitrogen, and ammonia, . . . form a reactive mixture" is not supported by the Specification, which fails to exclude other compounds, which are generally available in plasma etching (Specification, page 10, lines 11-13) from the plasma etching composition.

"A consisting essentially of" claim occupies a middle ground between closed claims that are written in a consisting of format and fully open claims that are drafted in a comprising' format." PPG Industries v. Guardian Industries, 156 F.3d 1351, 1354, 48 USPQ2d 1351, 1353-54 (Fed. Cir. 1998). When an applicant contends that additional

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steps or materials in the prior art are excluded by the recitation of "consisting essentially of," applicant has the burden of showing that the introduction of additional steps or components would materially change the characteristics of applicant's invention.

Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 26-29 and 31 are rejected under 35 U.S.C. 102(e) as being anticipated by Loewenstein (US 4,857,140).

Loewenstein teaches, a gas mixture that contains a fluorine source and a source of hydrogen, wherein the fluorine source is taken from the group of CF₄, F₂, SF₆ and C₂F₆ singly or in combination and the hydrogen source is taken from the group of CH₄, H₂, NH₃, hydrocarbon or any molecule with and abstractable hydrogen atom (claims 1-6 and 8, and 9), which reads on,

A plasma etching composition consisting essentially of at least two fluorocarbons and ammonia. Since Loewenstein discloses the same gaseous composition as claimed by applicants, and gas molecules collide and in constant motion, then using Loewenstein's composition in the same manner as claimed by applicants would inherently result wherein said at least one fluorocarbon and ammonia form a reactive mixture, as recited in **claim 26**; and further read on and result in,

A plasma etching composition consisting essentially of at least one other fluorocarbon and NH_3 , wherein said CF_4 , said at least one fluorocarbon and said NH_3 form a reactive mixture, as recited in **claim 71**.

The above also reads on,

wherein said at least two fluorocarbons are selected from the group consisting of fluorocarbons, **as in claim 27**;

wherein said at least two fluorocarbons are selected from the group consisting of C_4F_8 , C_4F_6 , C_5F_8 , CF_4 , C_2F_6 , CHF_3 , and CH_2F_2 , **in claim 28**; and

wherein said at least two fluorocarbons are selected from the group consisting of CF_4 , CHF_3 , and CH_2F_2 , **in claims 29 and 31**.

Loewenstein also discloses a gas taken from the group of CF_4 , F_2 , SF_6 and C_2F_6 and an inert carrier taken from the group of helium, argon or nitrogen; and a source of hydrogen taken from the group of CH_4 , H_2 , NH_3 , hydrocarbon or any molecule with and abstractable hydrogen atom (claim 14), which reads on,

A plasma etching composition consisting essentially of: at least one fluorocarbon, at least one additional gas selected from the group consisting of oxygen and nitrogen, and ammonia. Since Loewenstein discloses the same gaseous composition as claimed by applicants, and gas molecules collide and are in constant motion, then using Loewenstein's composition in the same manner as claimed by applicants would inherently result wherein said at least one fluorocarbon, said at least one additional gas, and said ammonia form a reactive mixture, **in claim 77**.

Response to Arguments

6. Applicant's arguments with respect to claims 26-29, 31, 71, and 77 have been considered but are moot in view of the new ground(s) of rejection because the Smith (US 6,277,733 B1) reference fails to address applicant's specifically claimed composition consisting essentially of: "two fluorocarbons and ammonia . . . [which] form a reactive mixture," as recited in (currently amended claim 26); "CF₄, at least one other fluorocarbon and NH₃, . . . [which] form a reactive mixture," as recited in (currently amended claim 71); and "at least one fluorocarbon, at least one additional gas selected from the group consisting of oxygen and nitrogen, and ammonia . . . [which] form a reactive mixture," as recited in (currently amended claim 77). Hence, the previous rejection is withdrawn.

A modified rejection presented above addressing applicants' newly added limitations of:

"A --plasma etching-- composition consisting --essentially-- of:

--two fluorocarbon--, and ammonia, wherein said at least --two fluorocarbons--, and --said--ammonia form a reactive mixture;

CF₄, --said-- at least one other fluorocarbon, and --said-- NH₃ form a reactive mixture; and

at least one additional gas selected from the group consisting of oxygen and nitrogen, and ammonia, wherein said at least one fluorocarbon, said at least one additional gas, and said ammonia form a reactive mixture" as recited respectively in (Currently amended) Claims 26-29 and 31; 71; and 77.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynette T. Umez-Eronini whose telephone number is 571-272-1470. The examiner is normally unavailable on the First Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 571-272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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February 6, 2006

EXAMINER

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